**Year 10 ADVANCED Quadratic Function Test** Name ........................................................

**MARKING SCHEME**

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| **Criterion A**: **Knowledge and Understanding** | | | |
| Achievement Level Descriptors | **IBMYP Descriptor** | Examples from the ***Quadratic Functions Test*** | **Level** |
| * **Consistently** makes **appropriate** deductions when solving **challenging** problems in a **variety** of contexts including **unfamiliar** situations. | * Successfully completed **Question 10 – 12**. | 8 to 7 |
| * **Generally** makes **appropriate** deductions when solving **challenging** problems in a **variety** of **familiar** contexts. | * Successfully completed **Question 6 – 7** and **Question 10 – 12**. | 6 to 5 |
| * **Sometimes** makes **appropriate** deductions when solving **simple and more-complex** problems **familiar** contexts. | * Successfully completed **Question 4 – 5**. | 4 to 3 |
| * **Attempts** to make deductions when solving **simple** problems in **familiar** contexts. | * Successfully completed **Question 1 – 3.** | 2 to 1 |
| * Has not reached a standard described by any of the above descriptors. |  | 0 |

1. Find *c* if (*c*, 11) lies on the line with equation *y* = 3*x* + 5.
2. Find the equation of the line which is perpendicular to *y* = 3*x* + 5 and passes through A(3,−6).
3. On the axes below draw the graph of the line with equation *y* = 3*x* + 5 using scales from –17 to 17 on both axes.

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1. On the same set of axes above, use graphical methods to find the point of intersection of *y* = 3*x* + 5 and *x* + 3*y* = –15.
2. Find *p* given that B(–3, –4) and P(–1, *p*) are 2 units apart.
3. Which of the two points P in question 5 lies on the line with equation *y* = 3*x* + 5?
4. Find the coordinates of the midpoint M of the line segment joining B(–3,–4) and C(2,11).
5. N is the midpoint of AB. Find the coordinates of A if B(–3,–4) and N(0,–5).
6. Using the distance formula find the distance between A(3,–6) and C(2,11).
7. Show that MN has half the length of AC.
8. Show that AC and MN are parallel using slopes.
9. Complete the diagram of the graphs including

* The points A, B, C, M and N
* The parallel line segments MN and AC
* The right angle
* The point P on BC.